Date.	Position Angle.	Dis-tance.	C—O Angle.	C—O Distance.	Date.	Position Angle.	Dis-tance.	C—O Angle.	C—O Distance.
1887·68	3 8	1·91	+2·8	−0·01	1894·69	304·2	2·30	−0·7	−0·09
1888·62	353 9	2·11	+2·5	−0·21	1895·32	298·6	2·22	−0·1	−0·05
1889·53	345·9	2·08	+1·1	−0·10	1895·64	296·1	2·14	−0·1	+0·02
1890·57	336·7	2·21	+0·2	−0·17	1896·61	289·0	2·31	−1·3	−0·26
1891·59	327·4	2·23	+0·7	−0·11	1897·55	279·7	1·80	−1·0	+0·10
1892·52	320·8	2·26	−0·2	−0·09	1898·55	270·7	1·91	−2·4	−0·07
1893·62	312·9	2·25	−1·2	−0·05					

The fact must be insisted on that no endeavour has been made to give a definitive orbit to 70 *Ophiuchi*, and nothing more has been attempted than to give a practical illustration of the working of the general method. Herein lies the justification for the merely rough adjustment of the elements T, P, and *a*. The other elements used are those given above, and as regards these an improved value might probably be assigned to the inclination. The value given rests on the measurement S N = 6·15 mm., F N = 11·5 mm. Greater relative accuracy can be attained in the measurement of longer lines, and it is therefore better to rely on the equivalent ratio $1n/1'n$ (fig. 2), for which, on reference to the original drawing, I find $1n = 31·3$ mm., $1'n = 60·0$ mm. These measurements give
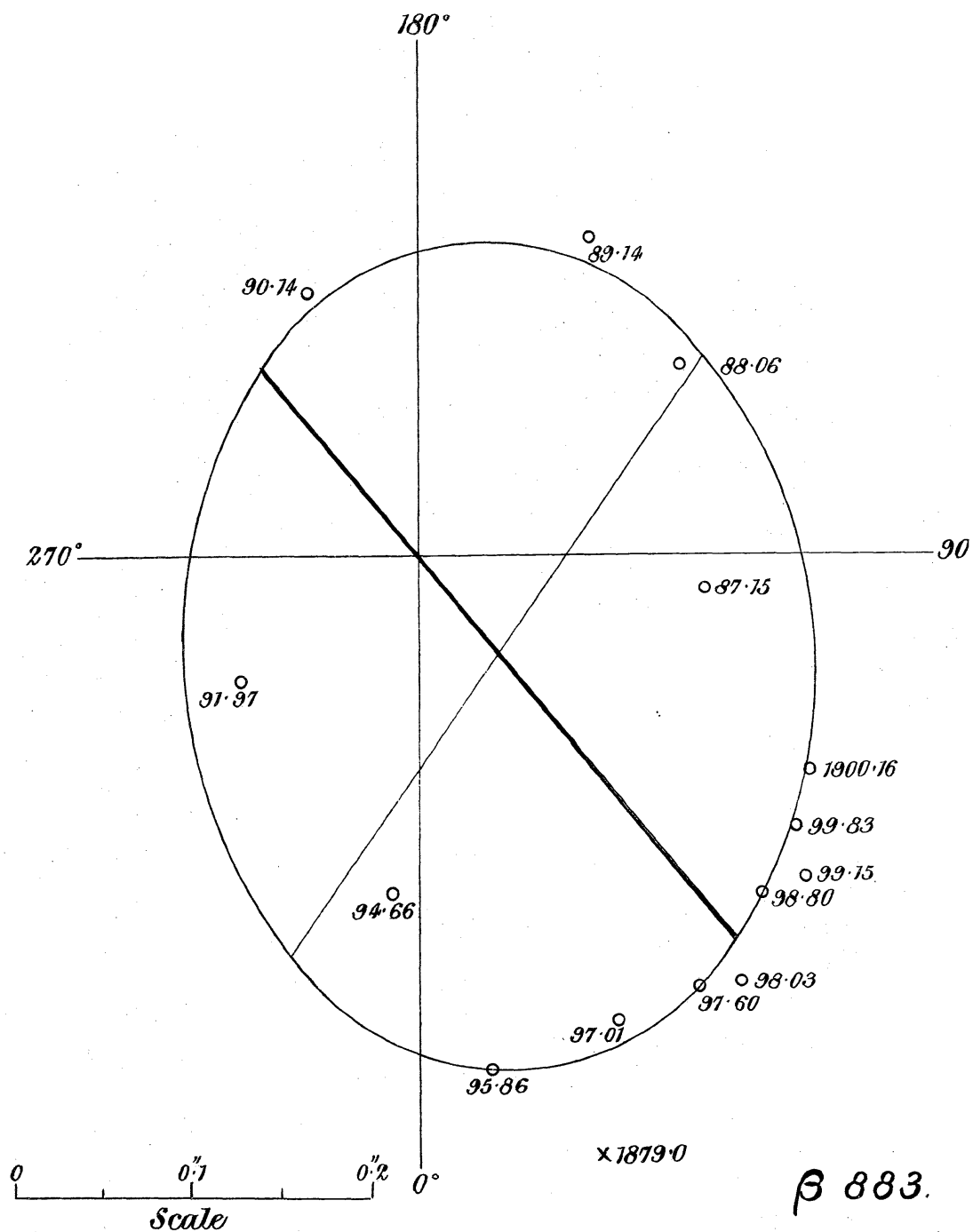
$$i = 58° 33'.$$

1900 *April* 10.

On the Orbit of β 883.   By T. Lewis.

The uncertainty in the period of this double star arises in the first instance from the difficulty in fixing the proper quadrant owing to the components being of nearly equal magnitude ; and secondly, by reason of their closeness, the distance between the two stars never exceeding 0″·3.

Dr. See has assigned a period of $5\frac{1}{2}$ years, which makes β 883 the most rapid binary known. On the other hand, Professor Glasenapp's period of 16·8 years would merely rank it amongst the most rapid pairs.

Since 1896 this star has been under almost continuous observation, and hence the area swept out during these four years may be taken as a standard area affected with but small error. Working backwards with this argument, it became at once evident that Burnham's measure in 1891·97 really belonged to the third quadrant. Admitting this, we must place the observations of 1894 and 1895 in the opposite quadrants set down by the observer. These are all the changes requisite, and are shown in the following means by brackets :—

180°

89·14

90·14

88·06

270° ———— 90

87·15

91·97

1900·16

99·83

99·15

98·80

94·66

98·03

97·60

97·01

95·86

× 1879·0

β 883.

0   0″·1   0″·2   0°

Scale

Date.	Angle.	Distance.	Observers.	Weight.
1879·00	17·5°	0·35″	Burnham	1
87·15	84·7	0·15	Schiaparelli	3
88·06	124·4	0·18	Schiaparelli	2
89·14	158·5	0·20	Schiaparelli	4
90·14	203·4	0·16	Schiaparelli	3
91·14	Single		Burnham	2
91·15	Single		Schiaparelli	7
91·97	[123·1]	0·12	Burnham	3
93·12	Single		Schiaparelli	2
94·66	[176·4]	0·19	Barnard	3
95·86	[188·4]	0·29	See, Schiaparelli	
97·01	24·9	0·28	Burnham. Bryant	
97·60	34·5	0·29	Barnard, Bowyer	
98·03	37·6	0·30	Brown, See	
98·80	46·9	0·28	Hussey, Dyson	
99·15	51·1	0·27	Schiaparelli	
1899·83	56·2	0·26	Cogshall, Lewis	
1900·16	62·3	0·25		

The numerals show the number of nights of observation which in the later groups range from 15 to 20.

The apparent orbit finally adopted is shown on Plate 16, with the above places plotted down. The dark line represents the projected major axis, and is so placed that the period and periastron may be easily checked.

The features of the adopted orbit are—

(1) The few changes of quadrant necessary.
(2) The inclusion of the negative results of 1891.
(3) The attempt to satisfy the original measure of 1879.

This observation is affected by an error of some kind, and would look better as − 17°·5. This is, however, of no great importance, the object being to decide between a $5\frac{1}{2}$-year period and one roughly three times this value.

The elements are :

$$T \quad 1890·6 \qquad \mathclap{\Omega} \quad 177° \ 6'$$
$$P \quad 15·8 \text{ years} \quad \lambda \quad 49° \ 4'$$
$$e \quad ·359 \qquad \gamma \quad 41° \ 18'$$
$$a \quad 0''·24$$

1900 *March* 20.

Results of Micrometer Measures of Double Stars made with the 28-inch Refractor at the Royal Observatory, Greenwich, in the year 1899.

(*Communicated by the Astronomer Royal.*)

The measures were made with a bifilar position-micrometer on the 28-inch refractor, aperture 28 inches, focal length 28 feet. The power generally used was 670, but when the definition permitted, a power of 1030 was used for observing very close pairs. A blue shade was used to diminish the light and irradiation when bright stars were observed. The observations were made in variously coloured fields, or in a dark field with illuminated wires.

Altogether 563 pairs have been measured, of which 130 are less than $0''\cdot5$ apart, 124 are between $0''\cdot5$ and $1''\cdot0$, 126 between $1''\cdot0$ and $2''\cdot0$, 80 between $2''\cdot0$ and $3''\cdot0$, and 103 over $3''\cdot0$. The majority of the last group are stars with very faint companions, such as *Aldebaran, β Cygni,* and *β Aquilæ.*

The initials in the last column are those of the observers, viz.—D., Mr. Dyson ; C., Mr. Cowell ; L., Mr. Lewis ; B., Mr. Bryant ; W. B., Mr. Bowyer ; and P. M., Mr. Melotte.

Micrometric Observations of Double Stars.

Star's Name.	R.A. 1900.	N.P.D. 1900.	Position Angle.	Distance.	No. of Nights.	Mags.		Epoch 1899.	Obs.
	h m	o ′	o	″					
Krueger 1 ...	0 6	32 43	194·6	2·00	1	9·1	9·2	·011	B.
OΣ 2 ...	0 8	63 35	37·1	0·47	1	6·5	8 0	·852	W.B.
β 864 ...	0 8	55 12	149·4	2·02	1	8·6	11·9	·893	L.
β 1015 ...	0 14	78 16	122·5	0·45	1	8·2	8·3	·906	W.B.
β 1093 ...	0 15	73 36	62·6	0·42	1	7·3	8·2	·906	W.B.
OΣ 12 ...	0 26	36 8	149·7	0·36	1	5·0	6·0	·011	B.
β 865 ...	0 39	47 20	196·9	1·34	1	8·4	8·9	·011	B.
β 866 ...	0 40	47 20	74·8	1·44	1	9·1	9·1	·011	B.
β 495 ...	0 42	71 52	222·5	0·47	2	7 6	7·7	·868	W.B.
Σ 60 (η Cassiopeiæ)	0 42	32 44	219·9	5·21	1	4·0	7·6	·011	B.
OΣ 20 ...	0 49	71 22	321·8	0·43	1	5·9	7·0	·906	W.B.
Σ 73 (36 Andromedæ)	0 49	66 55	16·9	0·93	2	6·2	6·8	·868	W.B.
Σ 79 ...	0 54	45 44	191·7	7·88	1	6·0	7·0	·068	B.
β 303 ...	1 4	66 44	283·8	0·54	1	7·2	7·5	·906	W.B.
Σ 97 ...	1 6	48 59	101·8	4·51	1	8·5	8·7	·068	B.
Σ 122 ...	1 22	86 59	327·1	6 02	1	7·9	9·0	·063	W.B.
			329·7	6·04	1	...		·066	L.
			327·7	5·89	1	...		·068	B.